US006526449B1

(12) **United States Patent**
Philyaw et al.

(10) **Patent No.: US 6,526,449 B1**
(45) **Date of Patent: Feb. 25, 2003**

(54) **METHOD AND APPARATUS FOR CONTROLLING A COMPUTER FROM A REMOTE LOCATION**

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(73) Assignee: **Digital Convergence Corporation**, Dallas, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/378,220**

(22) Filed: **Aug. 19, 1999**

Related U.S. Application Data

(63) Continuation-in-part of application No. 09/151,530, filed on Sep. 11, 1998, now Pat. No. 6,098,106.

(51) **Int. Cl.**[7] **G06F 13/00**
(52) **U.S. Cl.** **709/238**; 709/217
(58) **Field of Search** 709/200, 201, 709/203, 217, 218, 219, 220, 223, 224, 227, 228, 231, 238, 245

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Primary Examiner—Moustafa M. Meky
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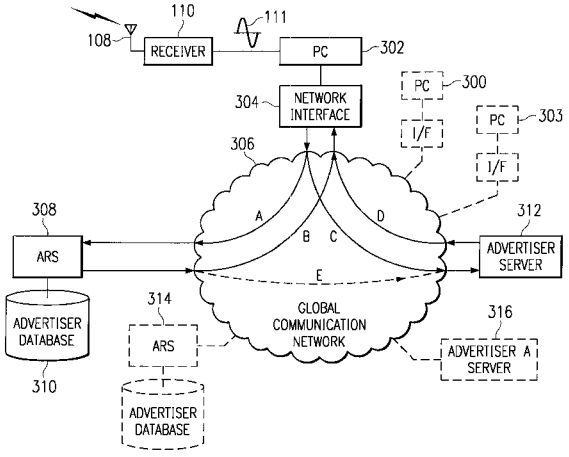
(57) **ABSTRACT**

A method for controlling a user computer is disclosed wherein a broadcast program is operable to transmit a broadcast to the user in the form of an audio/visual program, in addition to an encoded tone. This encoded tone is detected by the user computer and this information then transmitted to an intermediate node, an ARS **(308)**. This tone is compared in a relational database **(1704)** to determine is there is matching information therein. This matching information is in the form of routing information to a destination node **(1706)** over the data network **(306)**. This routing information is transmitted back to the user computer **(1702)** over the network **(306)**. The user PC **(1702)** then utilizes this information to complete a connection with the destination node **(1706)**. The tone is injected into the broadcast program by a program director at the broadcast station. This is effected through an input to a console **(1606)** which selects one of a plurality of tones in a tone database **(1602)**. Therefore, the user can determine which of a plurality of destinations nodes **(1706)** on the network **(306)** are to be selected.

28 Claims, 7 Drawing Sheets



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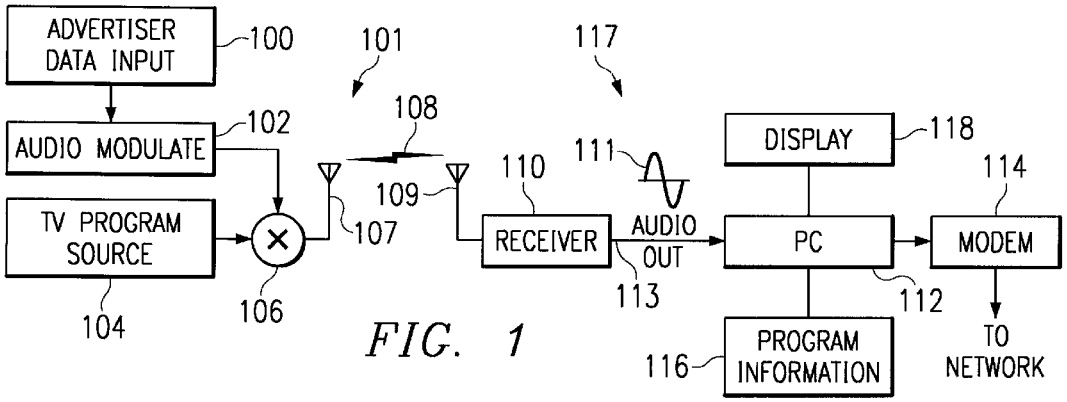

FIG. 1

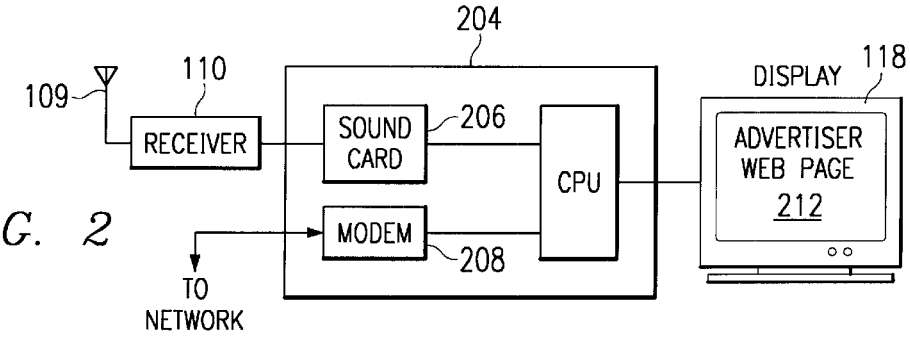

FIG. 2

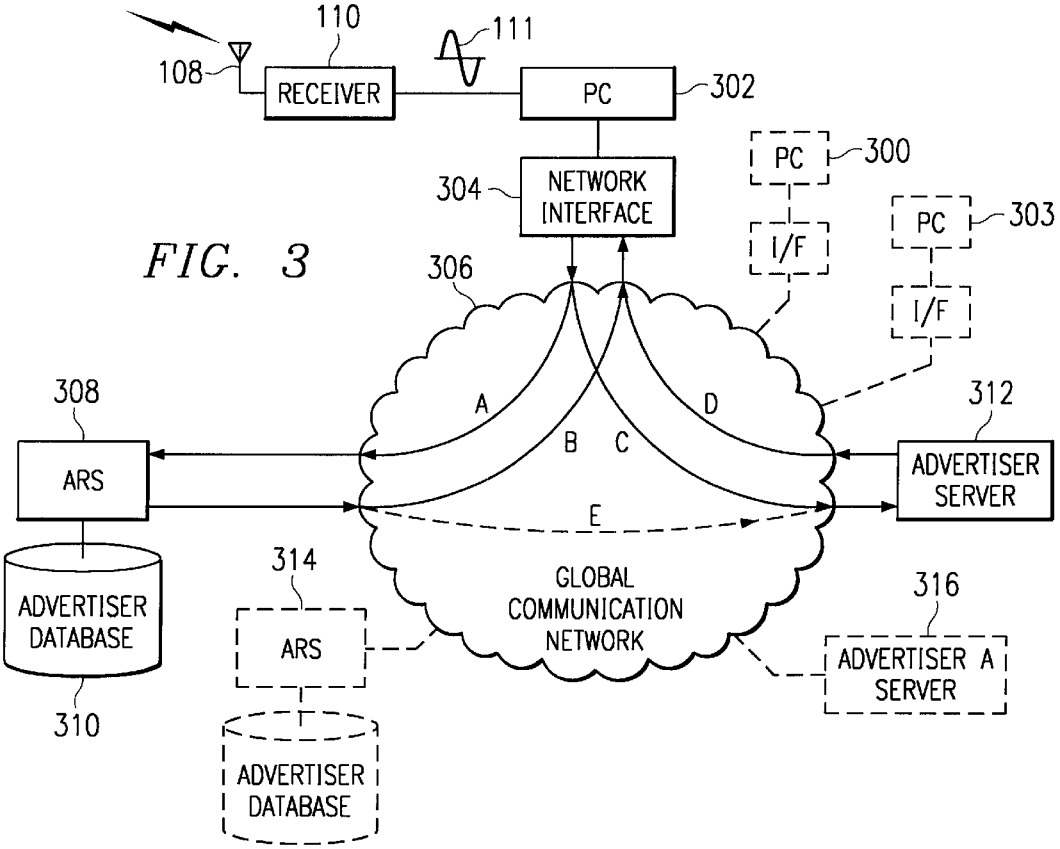

FIG. 3

PATH A: SOURCE TO ARS

400	URL OF ARS	ADVERTISER PRODUCT CODE	URL OF SOURCE

FIG. 4a

PATH B: ARS TO SOURCE

402	URL OF SOURCE	URL OF ADVERTISER	URL OF ARS

FIG. 4b

PATH C: SOURCE TO ADVERTISER

404	URL OF ADVERTISER	REQUEST-FOR-INFORMATION	URL OF SOURCE

FIG. 4c

PATH D: ADVERTISER TO SOURCE

406	URL OF SOURCE	REQUESTED INFORMATION	URL OF ADVERTISER

FIG. 4d

PATH E: ARS TO ADVERTISER (OPTIONAL)

408	URL OF ADVERTISER	REQUEST-FOR-INFORMATION	URL OF SOURCE

FIG. 4e

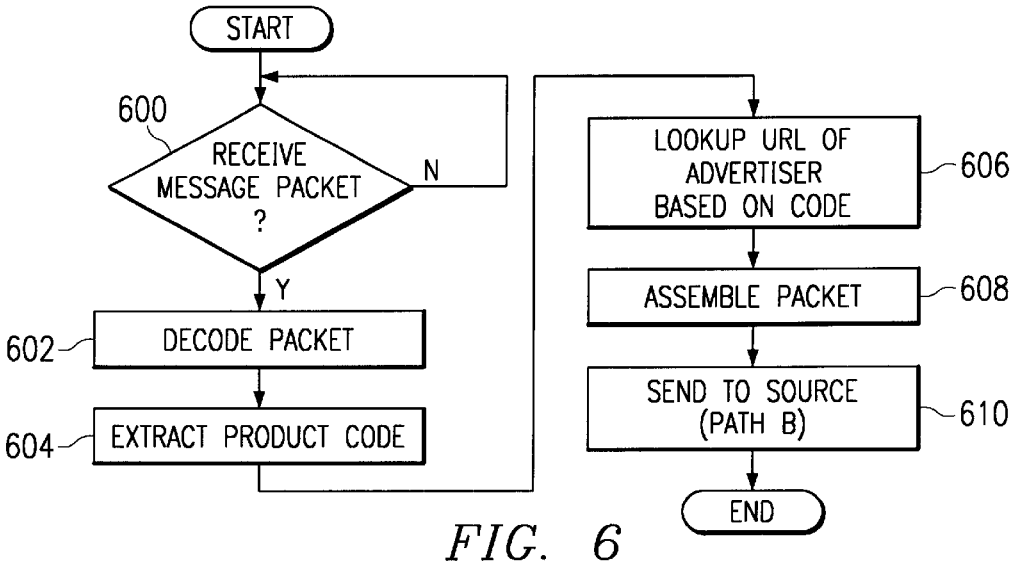

FIG. 6

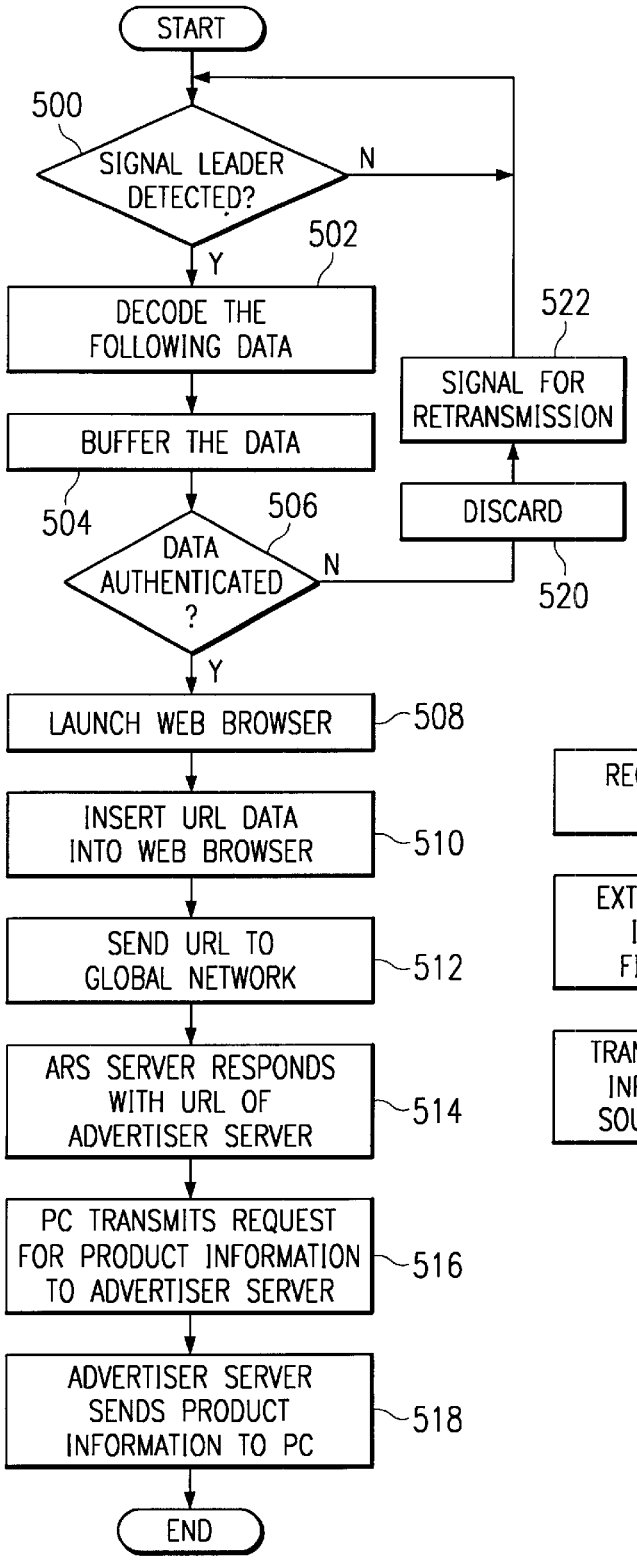
START
500
SIGNAL LEADER DETECTED?
N
Y
502
DECODE THE FOLLOWING DATA
BUFFER THE DATA
504
506
DATA AUTHENTICATED ?
N
Y
522
SIGNAL FOR RETRANSMISSION
DISCARD
520
LAUNCH WEB BROWSER
508
INSERT URL DATA INTO WEB BROWSER
510
SEND URL TO GLOBAL NETWORK
512
ARS SERVER RESPONDS WITH URL OF ADVERTISER SERVER
514
PC TRANSMITS REQUEST FOR PRODUCT INFORMATION TO ADVERTISER SERVER
516
ADVERTISER SERVER SENDS PRODUCT INFORMATION TO PC
518
END

FIG. 5

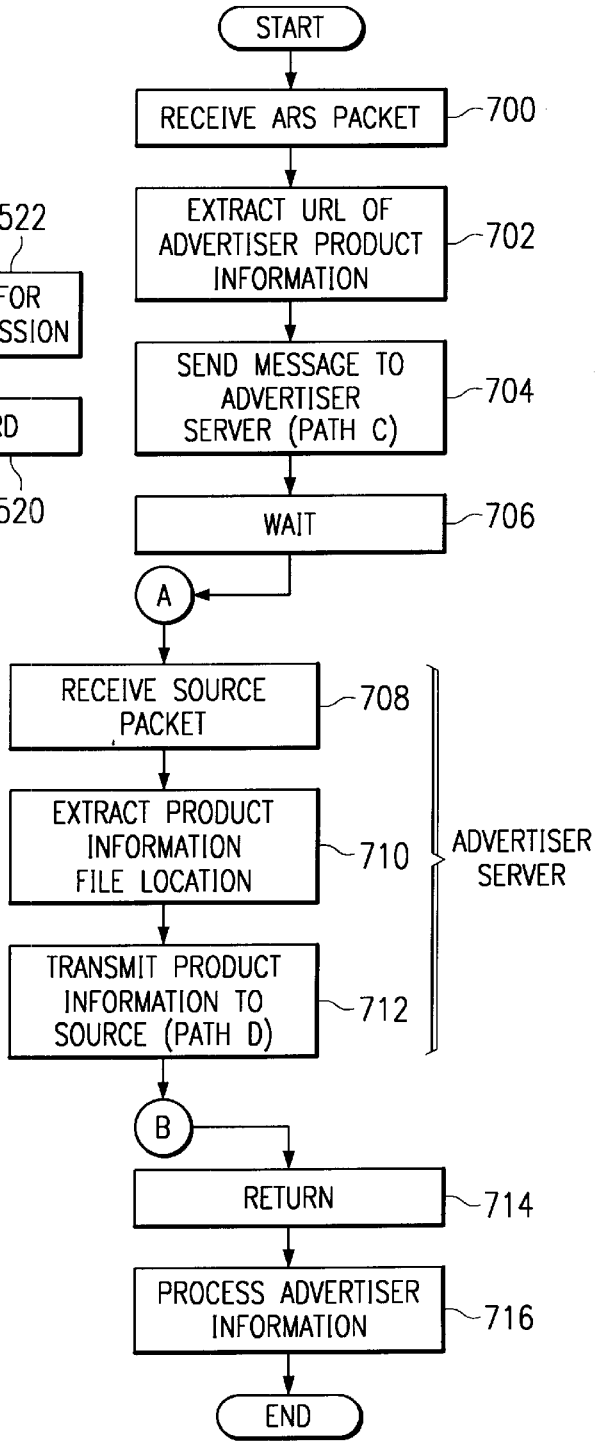
START
RECEIVE ARS PACKET
700
EXTRACT URL OF ADVERTISER PRODUCT INFORMATION
702
SEND MESSAGE TO ADVERTISER SERVER (PATH C)
704
WAIT
706
A
RECEIVE SOURCE PACKET
708
EXTRACT PRODUCT INFORMATION FILE LOCATION
710
TRANSMIT PRODUCT INFORMATION TO SOURCE (PATH D)
712
ADVERTISER SERVER
B
RETURN
714
PROCESS ADVERTISER INFORMATION
716
END

FIG. 7

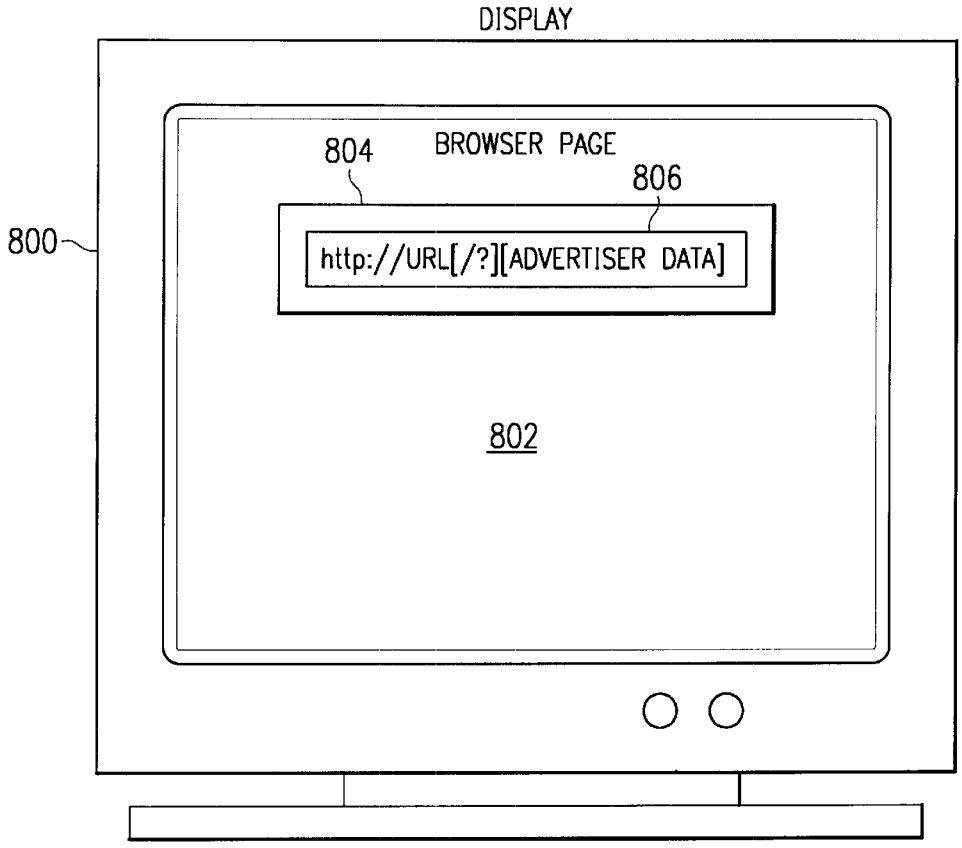
DISPLAY
800
804
BROWSER PAGE
806
http://URL[/?][ADVERTISER DATA]
802
808
URL/ADVERTISER DATA
[Ctrl-O][http://][URL][/?][variable][↵]
OPEN PAGE
USE HYPERTEXT PROTOCOL
URL OF ARS
ALLOW VARIABLE APPENDING
APPENDED VARIABLE (e.g., UPC CODE)
CARRIAGE RETURN – TRANSMIT DATA

FIG. 8

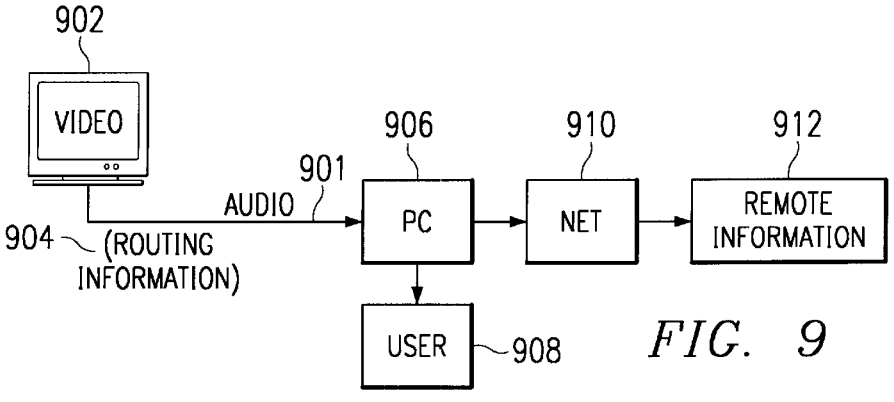
902
VIDEO
906
910
912
901
AUDIO
PC
NET
REMOTE INFORMATION
904
(ROUTING INFORMATION)
USER
908

FIG. 9

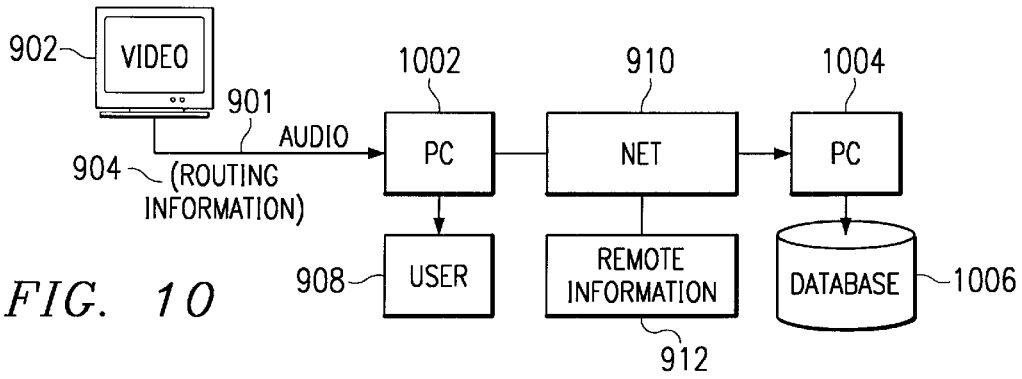

FIG. 10

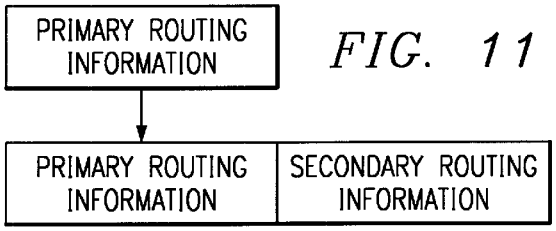

FIG. 11

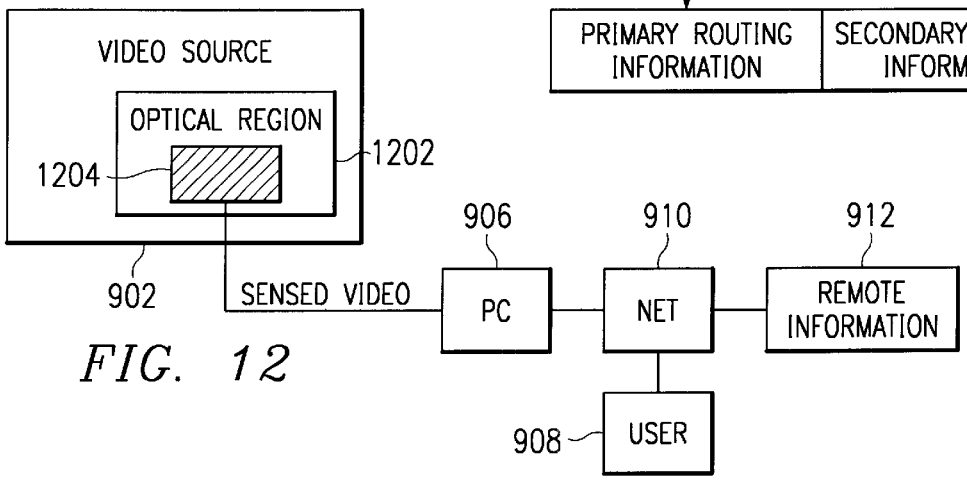

FIG. 12

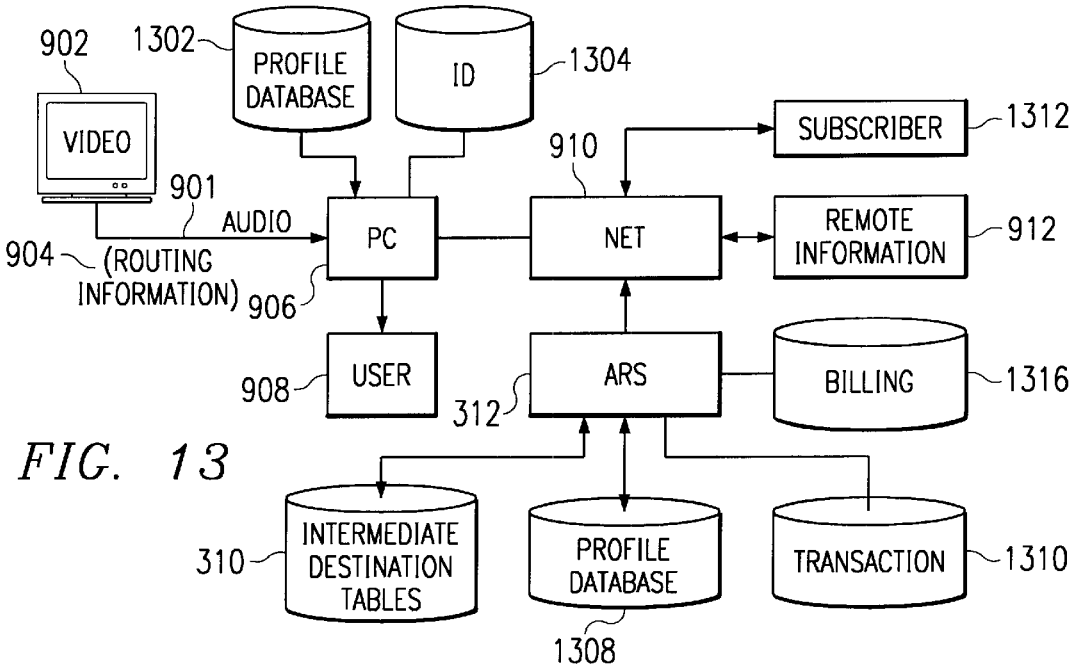

FIG. 13

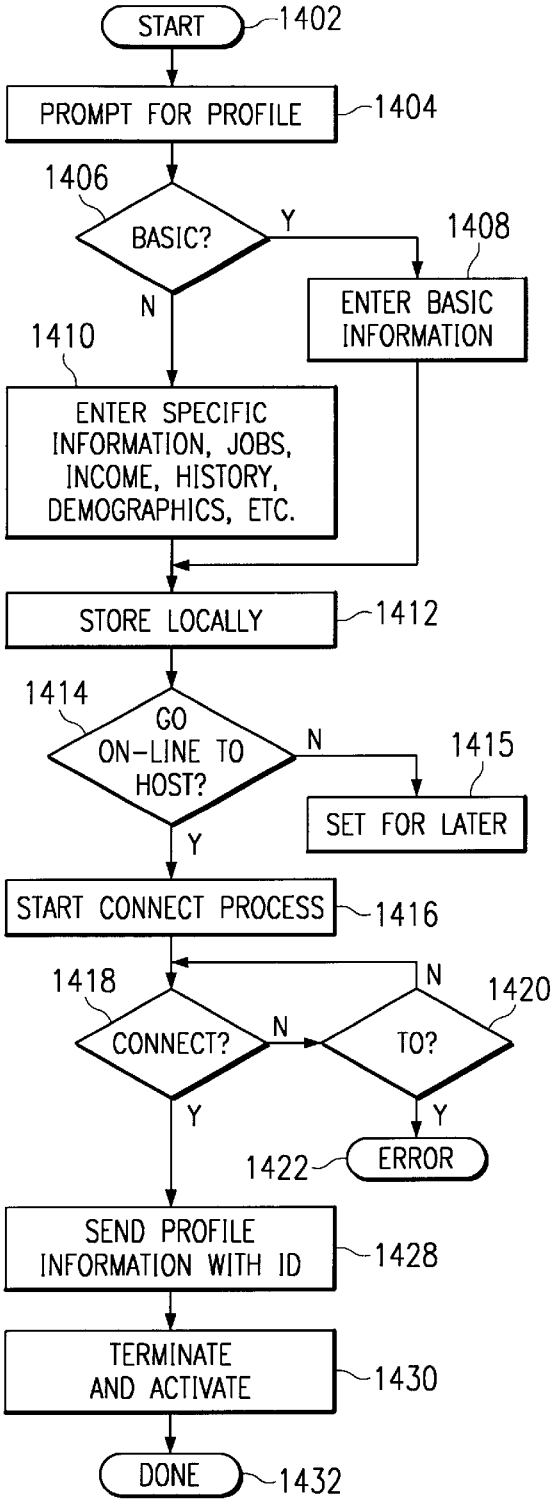
START
1402
PROMPT FOR PROFILE
1404
1406
BASIC?
Y
1408
ENTER BASIC INFORMATION
N
1410
ENTER SPECIFIC INFORMATION, JOBS, INCOME, HISTORY, DEMOGRAPHICS, ETC.
STORE LOCALLY
1412
1414
GO ON-LINE TO HOST?
N
1415
SET FOR LATER
Y
START CONNECT PROCESS
1416
1418
CONNECT?
N
1420
TO?
N
Y
Y
1422
ERROR
SEND PROFILE INFORMATION WITH ID
1428
TERMINATE AND ACTIVATE
1430
DONE
1432

FIG. 14

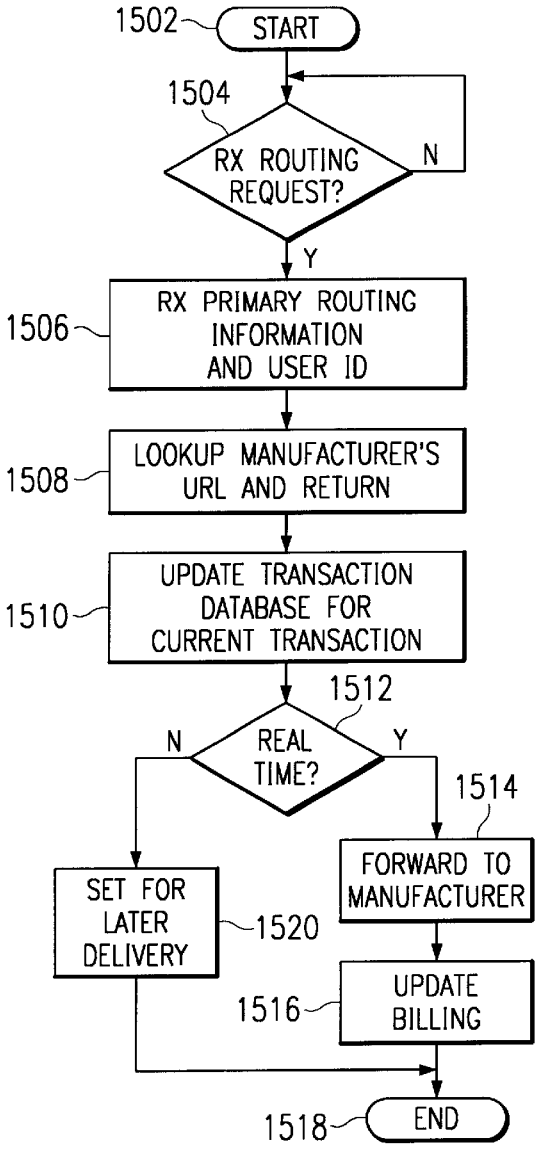
1502
START
1504
RX ROUTING REQUEST?
N
Y
1506
RX PRIMARY ROUTING INFORMATION AND USER ID
1508
LOOKUP MANUFACTURER'S URL AND RETURN
1510
UPDATE TRANSACTION DATABASE FOR CURRENT TRANSACTION
1512
REAL TIME?
N
Y
1514
FORWARD TO MANUFACTURER
SET FOR LATER DELIVERY
1520
1516
UPDATE BILLING
1518
END

FIG. 15

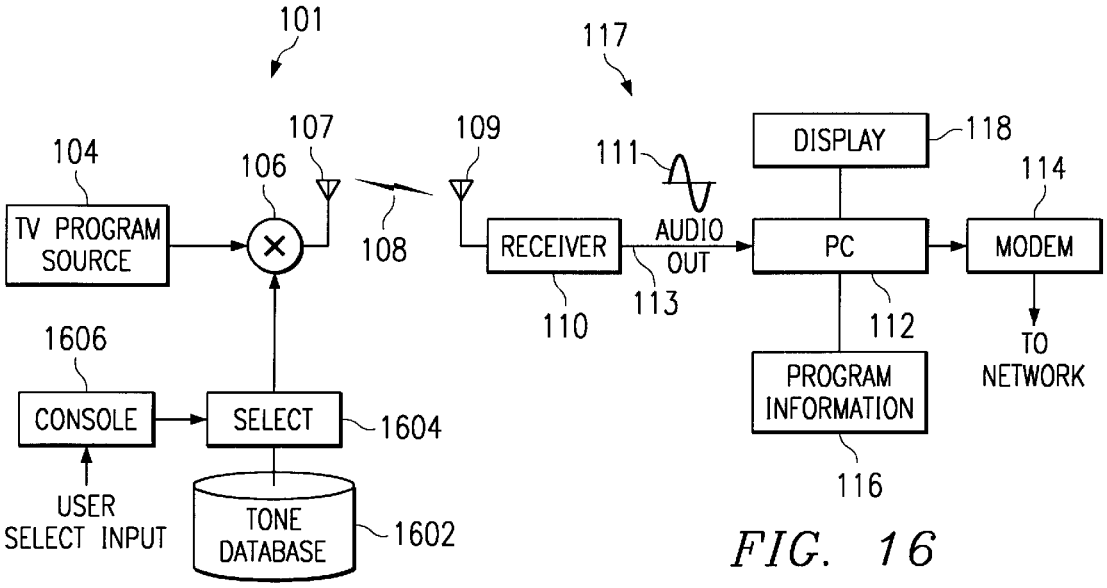

FIG. 16

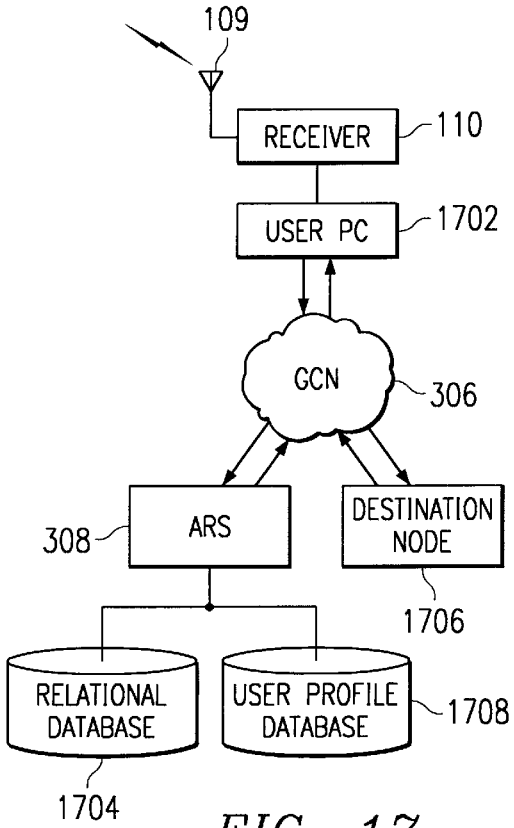

FIG. 17

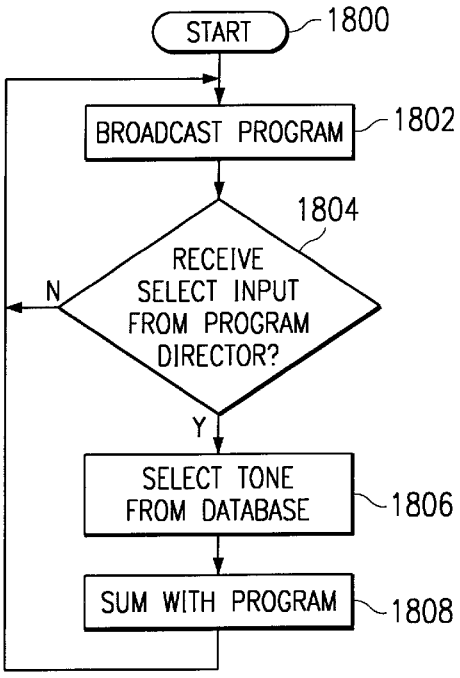

FIG. 18

METHOD AND APPARATUS FOR CONTROLLING A COMPUTER FROM A REMOTE LOCATION

CROSS REFERENCE TO RELATED APPLICATION

This application is a Continuation-In-Part of U.S. patent application Ser. No. 09/151,530 entitled "METHOD FOR CONTROLLING A COMPUTER WITH AN AUDIO SIGNAL" filed on Sep. 11, 1998 and issued Aug. 1, 2000 as U.S. Pat. No. 6,098,106; and is related to the following pending U.S. patent applications: Ser. No. 09/151,471 entitled "METHOD FOR INTERFACING SCANNED PRODUCT INFORMATION WITH A SOURCE FOR THE PRODUCT OVER A GLOBAL NETWORK" filed on Sep. 11, 1998, still pending; Ser. No. 09/378,222 entitled "METHOD AND APPARATUS FOR EMBEDDING ROUTING INFORMATION TO A REMOTE WEB SITE IN AN AUDIO/VIDEO TRACK" filed on Aug. 19, 1999, now abandoned; and Ser. No. 09/378,216 entitled "A METHOD FOR CONTROLLING A COMPUTER USING AN EMBODIMENT UNIQUE CODE IN THE CONTENT OF VIDEO TAPE MEDIA" filed on Aug. 19, 1999, still pending.

TECHNICAL FIELD OF THE INVENTION

This invention is related to a method of computer control, and particularly for automatically directing a web browser application on the computer to retrieve and display information in response to an analog signal.

BACKGROUND OF THE INVENTION

With the growing numbers of computer users connecting to the "Internet," many companies are seeking the substantial commercial opportunities presented by such a large user base. For example, one technology which exists allows a television ("TV") signal to trigger a computer response in which the consumer will be guided to a personalized web page. The source of the triggering signal may be a TV, video tape recorder, or radio. For example, if a viewer is watching a TV program in which an advertiser offers viewer voting, the advertiser may transmit a unique signal within the television signal which controls a program known as a "browser" on the viewer's computer to automatically display the advertiser's web page. The viewer then simply makes a selection which is then transmitted back to the advertiser.

In order to provide the viewer with the capability of responding to a wide variety of companies using this technology, a database of company information and Uniform Resource Locator ("URL") codes is necessarily maintained in the viewer's computer, requiring continuous updates. URLs are short strings of data that identify resources on the Internet: documents, images, downloadable files, services, electronic mailboxes, and other resources. URLs make resources available under a variety of naming schemes and access methods such as HTTP, FTP, and Internet mail, addressable in the same simple way. URLs reduce the tedium of "login to this server, then issue this magic command . . . " down to a single click. The Internet uses URLs to specify the location of files on other servers. A URL includes the type of resource being accessed (e.g., Web, gopher, FTP), the address of the server, and the location of the file. The URL can point to any file on any networked computer. Current technology requires the viewer to perform periodic updates to obtain the most current URL database. This aspect of the current technology

is cumbersome since the update process requires downloading information to the viewer's computer. Moreover, the likelihood for error in performing the update, and the necessity of redoing the update in the event of a later computer crash, further complicates the process. Additionally, current technologies are limited in the number of companies which may be stored in the database. This is a significant limitation since world-wide access presented by the Internet and the increasing number of companies connecting to perform on-line commerce necessitates a large database.

SUMMARY OF THE INVENTION

The invention disclosed and claimed herein is a method for controlling a computer, and comprises the steps of generating a broadcast program at a broadcast station, inserting into the broadcast program an analog signal comprising a product identifier which is in close association with a product such that it identifies the associated product, receiving the broadcast program at a source location.and extracting the product identifier therefrom, inputting the product identifier at the source location on a network, appending routing information to the product identifier, which routing information defines the location of a remote location on the network, and transmitting the product identifier from the source location to the remote location over the network in accordance with the appended routing information, which routing information defines the network connection between the source location and the remote location on the network, wherein information regarding the associated product can be returned to the source location from the remote location.

BRIEF DESCRIPTION OF THE DRAWINGS

For a more complete understanding of the present invention and the advantages thereof, reference is now made to the following description taken in conjunction with the accompanying Drawings in which:

FIG. **1** illustrates a block diagram of the preferred embodiment;

FIG. **2** illustrates the computer components employed in this embodiment;

FIG. **3** illustrates system interactions over a global network;

FIGS. **4***a*–**4***e* illustrate the various message packets transmitted between the source PC and network servers used in the preferred embodiment;

FIG. **5** is a flowchart depicting operation of the system according to the preferred embodiment;

FIG. **6** illustrates a flowchart of actions taken by the Advertiser Reference Server ("ARS") server;

FIG. **7** illustrates a flowchart of the interactive process between the source computer and ARS;

FIG. **8** illustrates a web browser page receiving the modified URL/advertiser product data according to the preferred embodiment;

FIG. **9** illustrates a simplified block diagram of the disclosed embodiment;

FIG. **10** illustrates a more detailed, simplified block diagram of the embodiment of FIG. **9**;

FIG. **11** illustrates a diagrammatic view of a method for performing the routing operation;

FIG. **12** illustrates a block diagram of an alternate embodiment utilizing an optical region in the video image for generating the routing information;

FIG. **13** illustrates a block diagram illustrating the generation of a profile with the disclosed embodiment;

FIG. **14** illustrates a flowchart for generating the profile and storing at the ARS;

FIG. **15** illustrates a flowchart for processing the profile information when information is routed to a user;

FIG. **16** illustrates a block diagram of an alternate embodiment of the present disclosure;

FIG. **17** illustrates a diagrammatic view of the interconnection with the network in the disclosure of FIG. **16**; and

FIG. **18** illustrates a flowchart for the operation of the embodiment of FIGS. **16** and **17**.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to FIG. **1**, there is illustrated a block diagram of a system for controlling a personal computer ("PC") **112** via an audio tone transmitted over a wireless system utilizing a TV. In the embodiment illustrated in FIG. **1**, there is provided a transmission station **101** and a receive station **117** that are connected via a communication link **108**. The transmission station **101** is comprised of a television program source **104**, which is operable to generate a program in the form of a broadcast signal comprised of video and audio. This is transmitted via conventional techniques along channels in the appropriate frequencies. The program source is input to a mixing device **106**, which mixing device is operable to mix in an audio signal. This audio signal is derived from an audio source **100** which comprises a coded audio signal which is then modulated onto a carrier which is combined with the television program source **104**. This signal combining can be done at the audio level, or it can even be done at the RF level in the form of a different carrier. However, the preferred method is to merely sum the audio signal from the modulator **102** into the audio channel of the program that is generated by the television program source **104**. The output thereof is provided from the mixing device **106** in the form of broadcast signal to an antenna **107**, which transmits the information over the communication link **108** to an antenna **109** on the receive side.

On the receive side of the system, a conventional receiver **110**, such as a television is provided. This television provides a speaker output which provides the user with an audible signal. This is typically associated with the program. However, the receiver **110** in the disclosed embodiment, also provides an audio output jack, this being the type RCA jack. This jack is utilized to provide an audio output signal on a line **113** which is represented by an audio signal **111**. This line **113** provides all of the audio that is received over the communication link **108** to the PC **112** in the audio input port on the PC **112**. However, it should be understood that, although a direct connection is illustrated from the receiver **110** to the PC **112**, there actually could be a microphone pickup at the PC **112** which could pick the audio signal up. In the disclosed embodiment, the audio signal generated by the advertiser data input device **100** is audible to the human ear and, therefore, can be heard by the user. Therefore, no special filters are needed to provide this audio to the PC **112**.

The PC **112** is operable to run programs thereon which typically are stored in a program file area **116**. These programs can be any type of programs such as word processing programs, application programs, etc. In the disclosed embodiment, the program that is utilized in the system is what is referred to as a "browser." The PC **112** runs a browser program to facilitate the access of information on the network, for example, a global communication network known as the "Internet" or the World-Wide-Web ("Web"). The browser is a hypertext-linked application used for accessing information. Hypertext is a term used to describe a particular organization of information within a data processing system, and its presentation to a user. It exploits the computer's ability to link together information from a wide variety of sources to provide the user with the ability to explore a particular topic. The traditional style of presentation used in books employs an organization of the information which is imposed upon it by limitations of the medium, namely fixed sized, sequential paper pages. Hypertext systems, however, use a large number of units of text or other types of data such as image information, graphical information, video information, or sound information, which can vary in size. A collection of such units of information is termed a hypertext document, or where the hypertext documents employ information other than text, hypermedia documents. Multimedia communications may use the Hypertext Transfer Protocol ("HTTP"), and files or formatted data may use the Hypertext Markup Language ("HTML"). This formatting language provides for a mingling of text, graphics, sound, video, and hypertext links by "tagging" a text document using HTML. Data encoded using HTML is often referred to as an "HTML document," an "HTML page," or a "home page." These documents and other Internet resources may be accessed across the network by means of a network addressing scheme which uses a locator referred to as a Uniform Resource Locator ("URL"), for example, "http://www.digital.com."

The Internet is one of the most utilized networks for interconnecting distributed computer systems and allows users of these computer systems to exchange data all over the world. Connected to the Internet are many private networks, for example, corporate or commercial networks. Standard protocols, such as the Transport Control Protocol ("TCP") and the Internet Protocol ("IP") provide a convenient method for communicating across these diverse networks. These protocols dictate how data are formatted and communicated. As a characteristic of the Internet, the protocols are layered in an IP stack. At higher levels of the IP stack, such as the application layer (where HTTP is employed), the user information is more readily visible, while at lower levels, such as the network level (where TCP/IP are used), the data can merely be observed as packets or a stream of rapidly moving digital signals. Superimposed on the Internet is a standard protocol interface for accessing Web resources, such as servers, files, Web pages, mail messages, and the like. One way that Web resources can be accessed is by browsers made by Netscape® and Microsoft Internet Explorer®.

Referring again now to FIG. **1**, the user can load this program with the appropriate keystrokes such that a browser window will be displayed on a display **118**. In one embodiment, the user can run the browser program on the PC **112** such that the browser window is displayed on the display **118**. While watching a preferred program, the user can also view display **118**. When an audio signal is received by the receiver **110** and the encoded information is contained therein that was input thereto by the advertiser, the PC **112** will then perform a number of operations. The first operation, according to the disclosed embodiment, is to extract the audio information within the received audio signal in the form of digital data, and then transmit this digital data to a defined location on the global communication network via a modem connection **114**. This connection will be described hereinbelow. This information will be relayed to a proprietary location and the instructions sent

back to the PC **112** as to the location of the advertiser associated with the code, and the PC **112** will then effect a communication link to that location such that the user can view on the display **118** information that the advertiser, by the fact of putting the tone onto the broadcast channel, desires the viewer to view. This information can be in the form of interactive programs, data files, etc. In one example, when an advertisement appears on the television, the tone can be generated and then additional data displayed on the display **118**. Additionally, a streaming video program could be played on the PC received over the network, which streaming video program is actually longer than the advertising segment on the broadcast. Another example would be a sports game that would broadcast the tone in order to allow a user access to information that is not available over the broadcast network, such as additional statistics associated with the sports program, etc.

By utilizing the system described herein with respect to the disclosed embodiment of FIG. **1**, an advertiser is allowed the ability to control a user's PC **112** through the use of tones embedded within a program audio signal. As will described hereinbelow, the disclosed embodiment utilizes particular routing information stored in the PC **112** which allows the encoded information in the received audio signal to route this information to a desired location on the network, and then allow other routing information to be returned to the PC **112** for control thereof to route the PC **112** to the appropriate location associated with that code.

Referring now to FIG. **2**, there is illustrated a computer **204**, similar to computer **112**, connected to display information on display **118**. The computer **204** comprises an internal audio or "sound" card **206** for receiving the transmitted audio signal through receive antenna **109** and receiver **110**. The sound card **206** typically contains analog-to-digital circuitry for converting the analog audio signal into a digital signal. The digital signal may then be more easily manipulated by software programs. The receiver **110** separates the audio signal from the video signal. A special trigger signal located within the transmitted advertiser audio signal triggers proprietary software running on the computer **204** which launches a communication application, in this particular embodiment, the web browser application located on the PC **204**. Coded advertiser information contained within the audio signal is then extracted and appended with the address of a proprietary server located on the communication network. The remote server address is in the form of a URL. This appended data, in addition to other control codes, is inserted directly into the web browser application for automatic routing to the communication network. The web browser running on PC **204**, and communicating to the network with an internal modem **208**, in this embodiment, transmits the advertiser information to the remote server. The remote server cross-references the advertiser product information to the address of the advertiser server located on the network. The address of the advertiser server is routed back through the PC **204** web browser to the advertiser server. The advertiser product information is returned to PC **204** to be presented to the viewer on display **118**. In this particular embodiment, the particular advertiser product information displayed is contained within the advertiser's web page **212**. As mentioned above, the audio signal is audible to the human ear. Therefore the audio signal, as emitted from the TV speakers, may be input to the sound card **206** via a microphone. Furthermore, the audio signal need not be a real-time broadcast, but may be on video tapes, CDs, DVD, or other media which may be displayed at a later date. With the imminent implementation of high definition digital television, the audio signal output from the TV may also be digital. Therefore, direct input into a sound card for A/D purposes may not be necessary, but alternative interfacing techniques to accommodate digital-to-digital signal formats would apply.

Referring now to FIG. **3**, there is illustrated a source PC **302**, similar to PCs **204** and **112**, connected to a global communication network (GCN) **306** through an interface **304**. In this embodiment, the audio signal **111** is received by PC **302** through its sound card **206**. The audio signal **111** comprises a trigger signal which triggers proprietary software into launching a web browser application residing on the PC **302**. The audio signal **111** also comprises advertiser product information which is extracted and appended with URL information of an. Advertiser Reference Server ("ARS") **308**. The ARS **308** is a system disposed on the GCN **306** that is defined as the location to which data in the audio signal **111** is to be routed. As such, data in the audio signal **111** will always be routed to the ARS **308**, since a URL is unique on the GCN **306**. Connected to the ARS **308** is a database **310** of product codes and associated manufacturer URLs. The database **310** undergoes a continual update process which is transparent to the user. As companies sign-on, i.e., subscribe, to this technology, manufacturer and product information is added to the database **310** without interrupting operation of the source PC **302** with frequent updates. When the advertiser server address URL is obtained from the ARS database **310**, it and the request for the particular advertiser product information are automatically routed back through the web browser on PC **302**, over to the respective advertiser server for retrieval of the advertiser product information to the PC **302**. Additionally although the disclosed invention discusses a global communication network, the system is also applicable to LANs, WANs, and peer-to-peer network configurations. It should be noted that the disclosed architecture is not limited to a single source PC **302**, but may comprise a plurality of source PCs, e.g., PC **300** and PC **303**. Moreover, a plurality of ARS **308** systems and advertiser servers **312** may be implemented, e.g., ARS **314**, and advertiser server A **316**, respectively.

The information transactions, in general, which occur between the networked systems of this embodiment, over the communication network, are the following. The web browser running on source PC **302** transmits a message packet to the ARS **308** over Path "A." The ARS **308** decodes the message packet and performs a cross-reference function with product information extracted from the received message packet to obtain the address of an advertiser server **312**. A new message packet is assembled comprising the advertiser server **312** address, and sent back to the source PC **302** over Path "B." A "handoff" operation is performed whereby the source PC **302** browser simply reroutes the information on to the advertiser server **312** over Path "C," with the appropriate source and destination address appended. The advertiser server **312** receives and decodes the message packet. The request-for-advertiser-product-information is extracted and the advertiser **312** retrieves the requested information from its database for transmission back to the source PC **302** over Path "D." The source PC **302** then processes the information, i.e., for display to the viewer. The optional Path "E" is discussed hereinbelow. It should be noted that the disclosed methods are not limited to only browser communication applications, but may accommodate, with sufficient modifications by one skilled in the art, other communication applications used to transmit information over the Internet or communication network.

Referring now to FIG. **4*a***, the message packet **400** sent from the source PC **302** to ARS **308** via Path "A" comprises

several fields. One field comprises the URL of the ARS **308** which indicates where the message packet is to be sent. Another field comprises the advertiser product code or other information derived from the audio signal **111**, and any additional overhead information required for a given transaction. The product code provides a link to the address of the advertiser server **312**, located in the database **310**. Yet another field comprises the network address of the source PC **302**. In general, network transmissions are effected in packets of information, each packet providing a destination address, a source address, and data. These packets vary depending upon the network transmission protocol utilized for communication. Although the protocols utilized in the disclosed embodiment are of a conventional protocol suite commonly known as TCP/IP, it should be understood that any protocols providing the similar basic functions can be used, with the primary requirement that a browser can forward the routing information to the desired URL in response to keystrokes being input to a PC. However, it should be understood that any protocol can be used, with the primary requirement that a browser can forward the product information to the desired URL in response to keystrokes being input to a PC. Within the context of this disclosure, "message packet" shall refer to and comprise the destination URL, product information, and source address, even though more than a single packet must be transmitted to effect such a transmission.

Upon receipt of the message packet **400** from source PC **302**, ARS **308** processes the information in accordance with instructions embedded in the overhead information. The ARS **308** specifically will extract the product code information from the received packet **400** and, once extracted, will then decode this product code information. Once decoded, this information is then compared with data contained within the ARS advertiser database **310** to determine if there is a "hit." If there is no "hit" indicating a match, then information is returned to the browser indicating such. If there is a "hit," a packet **402** is assembled which comprises the address of the source PC **302**, and information instructing the source PC **302** as to how to access, directly in a "handoff" operation, another location on the network, that of an advertiser server **312**. This type of construction is relatively conventional with browsers such as Netscape® and Microsoft Internet Explorer® and, rather than displaying information from the ARS **308**, the source PC **302** can then access the advertiser server **312**. The ARS **308** transmits the packet **402** back to source PC **302** over Path "B." Referring now to FIG. **4***b*, the message packet **402** comprises the address of the source PC **302**, the URL of the advertiser server **312** embedded within instructional code, and the URL of the ARS **308**.

Upon receipt of the message packet **402** by the source PC **302**, the message packet **402** is disassembled to obtain pertinent routing information for assembly of a new message packet **404**. The web browser running on source PC **302** is now directed to obtain, over Path "C," the product information relevant to the particular advertiser server **312** location information embedded in message packet **404**. Referring now to FIG. **4***c*, the message packet **404** for this transaction comprises the URL of the advertiser server **312**, the request-for-product-information data, and the address of the source PC **302**.

Upon receipt of the message packet **404** from source PC **302**, advertiser server **312** disassembles the message packet **404** to obtain the request-for-product-information data. The advertiser server **312** then retrieves the particular product information from its database, and transmits it over Path "D" back to the source PC **302**. Referring now to FIG. **4***d*, the message packet **406** for this particular transaction comprises the address of the source PC **302**, the requested information, and the URL of the advertiser server **312**.

Optionally, the ARS **308** may make a direct request for product information over Path "E" to advertiser server **312**. In this mode, the ARS **308** sends information to the advertiser server **312** instructing it to contact the source PC **302**. This, however, is unconventional and requires more complex software control. The message packet **408** for this transaction is illustrated in FIG. **4***e*, which comprises the URL of the advertiser server **312**, the request-for-product-information data, and the address of the source PC **302**. Since product information is not being returned to the ARS **308**, but directly to the source PC **302**, the message packet **408** requires the return address to be that of the source PC **302**. The product information is then passed directly to PC **302** over Path "D."

Referring now to FIG. **5**, the method for detecting and obtaining product information is as follows. In decision block **500**, a proprietary application running resident on a source computer PC **302** (similar to PC **204**) monitors the audio input for a special trigger signal. Upon detection of the trigger signal, data following the trigger signal is decoded for further processing, in function block **502**. In function block **504**, the data is buffered for further manipulation. In decision block **506**, a determination is made as to whether the data can be properly authenticated. If not, program flow continues through the "N" signal to function block **520** where the data is discarded. In function block **522**, the program then signals for a retransmission of the data. The system then waits for the next trigger signal, in decision block **500**. If properly authenticated in decision block **506**, program flow continues through the "Y" signal path where the data is then used to launch the web browser application, as indicated in function block **508**. In function block **510**, the web browser receives the URL data, which is then automatically routed through the computer modem **208** to the network interface **304** and ultimately to the network **306**. In function block **514**, the ARS **308** responds by returning the URL of advertiser server **312** to the PC **302**. In function block **516**, the web browser running on the source PC **302**, receives the advertiser URL information from the ARS **308**, and transmits the URL for the product file to the advertiser server **312**. In block **518**, the advertiser server **312** responds by sending the product information to the source PC **302** for processing.

The user may obtain the benefits of this architecture by simply downloading the proprietary software over the network. Other methods for obtaining the software are well-known; for example, by CD, diskette, or pre-loaded hard drives.

Referring now to FIG. **6**, there is illustrated a flowchart of the process the ARS **308** may undergo when receiving the message packet **400** from the source PC **302**. In decision block **600**, the ARS **308** checks for the receipt of the message packet **400**. If a message packet **400** is not received, program flow moves along the "N" path to continue waiting for the message. If the message packet **400** is received, program flow continues along path "Y" for message processing. Upon receipt of the message packet **400**, in function block **602**, the ARS **308** decodes the message packet **400**. The product code is then extracted independently in function block **604** in preparation for matching the product code with the appropriate advertiser server address located in the database **310**. In function block **606**, the product code is then used with a look-up table to retrieve the advertiser server

312 URL of the respective product information contained in the audio signal data. In function block **608**, the ARS **308** then assembles message packet **402** for transmission back to the source PC **302**. Function block **610** indicates the process of sending the message packet **402** back to the source PC **302** over Path "B."

Referring now to FIG. **7**, there is illustrated a flowchart of the interactive processes between the source PC **302** and the advertiser server **312**. In function block **700**, the source PC **302** receives the message packet **402** back from the ARS **308** and begins to decode the packet **402**. In function block **702**, the URL of the advertiser product information is extracted from the message packet **402** and saved for insertion into the message packet **404** to the advertiser server **312**. The message packet **404** is then assembled and sent by the source PC **302** over Path "C" to the advertiser server **312**, in function block **704**. While the source PC **302** waits, in function block **706**, the advertiser server **312** receives the message packet **404** from the source PC **302**, in function block **708**, and disassembles it. The product information location is then extracted from the message packet **404** in function block **710**. The particular product information is retrieved from the advertiser server **312** database for transmission back to the source PC **302**. In function block **712**, the product information is assembled into message packet **406** and then transmitted back to the source PC **302** over Path "D." Returning to the source PC **302** in function block **714**, the advertiser product information contained in the message packet **406** received from the advertiser server **312**, is then extracted and processed in function block **716**.

Referring now to FIG. **8**, after receipt of a trigger signal, a web browser application on a source PC **302** is automatically launched and computer display **800** presents a browser page **802**. Proprietary software running on the source PC **302** processes the audio signal data after being digitized through the sound card **206**. The software appropriately prepares the data for insertion directly into the web browser by extracting the product information code and appending keystroke data to this information. First, a URL page **804** is opened in response to a Ctrl-O command added by the proprietary software as the first character string. Opening URL page **804** automatically positions the cursor in a field **806** where additional keystroke data following the Ctrl-O command will be inserted. After URL page **804** is opened, the hypertext protocol preamble http:// is inserted into the field **806**. Next, URL information associated with the location of the ARS **308** is inserted into field **806**. Following the ARS **308** URL data are the characters /? to allow entry of variables immediately following the /? characters. In this embodiment, the variable following is the product information code received in the audio signal. The product code information also provides the cross-reference information for obtaining the advertiser URL from the ARS database **310**. Next, a carriage return is added to send the URL/product data and close the window **804**. After the message packet **400** is transmitted to the ARS **308** from the source PC **302**, transactions from the ARS **308**, to the source PC **302**, to the advertiser server **312**, and back to the source PC **302**, occur quickly and are transparent to the viewer. At this point, the next information the viewer sees is the product information which was received from the advertiser server **312**.

Referring now to FIG. **9**, there is illustrated a block diagram of a more simplified embodiment. In this embodiment, a video source **902** is provided which is operable to provide an audio output on an audio cable **901** which provides routing information referred to by reference numeral **904**. The routing information **904** is basically information contained within the audio signal. This is an encoded or embedded signal. The important aspect of the routing information **904** is that it is automatically output in realtime as a function of the broadcast of the video program received over the video source **902**. Therefore, whenever the program is being broadcast in realtime to the user **908**, the routing information **904** will be output whenever the producer of the video desires it to be produced. It should be understood that the box **902** representing the video source could be any type of media that will result in the routing information being output. This could be a cassette player, a DVD player, an audio cassette, a CD ROM or any such media. It is only important that this is a program that the producer develops which the user **908** watches in a continuous or a streaming manner. Embedded within that program, at a desired point selected by the producer, the routing information **904** is output.

The audio information is then routed to a PC **906**, which is similar to the PC **112** in FIG. **1**. A user **908** is interfaced with the PC to receive information thereof, the PC **906** having associated therewith a display (not shown). The PC **906** is interfaced with a network **910**, similar to the network **306** in FIG. **3**. This network **910** has multiple nodes thereon, one of which is the PC **906**, and another of which is represented by a network node **912** which represents remote information. The object of the present embodiment is to access remote information for display to the user **908** by the act of transmitting from the video program in block **902** the routing information **904**. This routing information **904** is utilized to allow the PC **906** which has a network "browser" running thereon to "fetch" the remote information at the node **912** over the network **910** for display to the user **908**. This routing information **904** is in the form of an embedded code within the audio signal, as was described hereinabove.

Referring now to FIG. **10**, there is illustrated a more detailed block diagram of the embodiment of FIG. **9**. In this embodiment, the PC **906** is split up into a couple of nodes, a first PC **1002** and a second PC **1004**. The PC **1002** resides at the node associated with the user **908**, and the PC **1004** resides at another node. The PC **1004** represents the ARS **308** of FIG. **3**. The PC **1004** has a database **1006** associated therewith, which is basically the advertiser database **310**. Therefore, there are three nodes on the network **910** necessary to implement the disclosed embodiment, the PC **1002**, the PC **1004** and the remote information node **912**. The routing information **904** is utilized by the PC **1002** for routing to the PC **1004** to determine the location of the remote information node **912** on the network **910**. This is returned to the PC **1002** and a connection made directly with the remote information node **912** and the information retrieved therefrom to the user **908**. The routing information **904** basically constitutes primary routing information.

Referring now to FIG. **11**, there is illustrated a diagrammatic view of how the network packet is formed for sending the primary routing information to the PC **1004**. In general, the primary routing information occupies a single field which primary routing information is then assembled into a data packet with the secondary routing information for transfer to the network **910**. This is described hereinabove in detail.

Referring now to FIG. **12**, there is illustrated an alternate embodiment to that of FIG. **9**. In this embodiment, the video source **902** has associated therewith an optical region **1202**, which optical region **1202** has disposed therein an embedded video code. This embedded video code could be relatively complex or as simple as a grid of dark and white regions, each region in the grid able to have a dark color for a logic

"1" or a white region for a logic "0." This will allow a digital value to be disposed within the optical region **1202**. A sensor **1204** can then be provided for sensing this video code. In the example above, this would merely require an array of optical detectors, one for each region in the grid to determine whether this is a logic "1" or a logic "0" state. One of the sensed video is then output to the PC **906** for processing thereof to determine the information contained therein, which information contained therein constitutes the primary routing information **904**. Thereafter, it is processed as described hereinabove with reference to FIG. **9**.

Referring now to FIG. **13**, there is illustrated a block diagram for an embodiment wherein a user's profile can be forwarded to the original subscriber or manufacturer. The PC **906** has associated therewith a profile database **1302**, which profile database **1302** is operable to store a profile of the user **908**. This profile is created when the program, after initial installation, requests profile information to be input in order to activate the program. In addition to the profile, there is also a unique ID that is provided to the user **908** in association with the browser program that runs on the PC **906**. This is stored in a storage location represented by a block **1304**. This ID **1304** is accessible by a remote location as a "cookie" which is information that is stored in the PC **906** in an accessible location, which accessible location is actually accessible by the remote program running on a remote node.

The ARS **308**, which basically constitutes the PC **1004** of FIG. **10**, is operable to have associated therewith a profile database **1308**, which profile database **1308** is operable to store profiles for all of the users. The profile database **1308** is a combination of the information stored in profile database **1302** for all of the PCs **906** that are attachable to the system. This is to be distinguished from information stored in the database **310** of the ARS **308**, the advertiser's database, which contains intermediate destination tables. When the routing information in the primary routing information **904** is forwarded to the ARS **308** and extracted from the original data packet, the look-up procedure described hereinabove can then be performed to determine where this information is to be routed. The profile database **1302** is then utilized for each transaction, wherein each transaction in the form of the routing information received from the primary routing information **904** is compared to the destination tables of database **310** to determine what manufacturer it there. The associated ID **1304** that is transmitted along with the routing information in primary routing information **904** is then compared with the profile database **1308** to determine if a profile associated therewith is available. This information is stored in a transaction database **1310** such that, at a later time, for each routing code received in the form of the information in primary routing information **904**, there will associated therewith the IDs **1304** of each of the PCs **906**. The associated profiles in database **1308**, which are stored in association with IDs **1304**, can then be assembled and transmitted to a subscriber as referenced by a subscriber node **1312** on the network **910**. The ARS **308** can do this in two modes, a realtime mode or a non-realtime mode. In a realtime mode, each time a PC **906** accesses the advertiser database **310**, that user's profile information is uploaded to the subscriber node **1312**. At the same time, billing information is generated for that subscriber **1312** which is stored in a billing database **1316**. Therefore, the ARS **308** has the ability to inform the subscriber **1312** of each transaction, bill for those transactions, and also provide to the subscriber **1312** profile information regarding who is accessing the particular product advertisement having associated therewith the routing information field **904** for a particular routing code as described hereinabove. This information, once assembled, can then be transmitted to the subscriber **1312** and also be reflected in billing information and stored in the billing information database **1316**.

Referring now to FIG. **14**, there is illustrated a flowchart depicting the operation for storing the profile for the user. The program is initiated in a block **1402** and then proceeds to a function block **1404**, wherein the system will prompt for the profile upon initiation of the system. This initiation is a function that is set to activate whenever the user initially loads the software that he or she is provided. The purpose for this is to create, in addition to the setup information, a user profile. Once the user is prompted for this, then the program will flow to a decision block **1406** to determine whether the user provides basic or detailed information. This is selectable by the user. If selecting basic, the program will flow to a function block **1408** wherein the user will enter basic information such as name and serial number and possibly an address. However, to provide some incentive to the user to enter more information, the original prompt in function block **1404** would have offers for such things as coupons, discounts, etc, if the user will enter additional information. If the user selects this option, the program flows from the decision block **1406** to a function block **1410**. In the function block **1410**, the user is prompted to enter specific information such as job, income level, general family history, demographic information and more. There can be any amount of information collected in this particular function block.

Once all of the information is collected, in either the basic mode or the more specific mode, the program will then flow to a function block **1412** where this information is stored locally. The program then flows to a decision block **1414** to then go on-line to the host or the ARS **308**. In general, the user is prompted to determine whether he or she wants to send this information to the host at the present time or to send it later. If he or she selects the "later" option, the program will flow to a function block **1415** to prompt the user at a later time to send the information. In the disclosed embodiment, the user will not be able to utilize the software until the profile information is sent to the host. Therefore, the user may have to activate this at a later time in order to connect with the host.

If the user has selected the option to upload the profile information to the host, the program will flow to the function block **1416** to initiate the connect process and then to a decision block **1418** to determine if the connection has been made. If not, the program will flow along a "N" path to decision block **1420** which will time out to an error block **1422** or back to the input of the connect decision block **1418**. The program, once connected, will then flow along a "Y" path from decision block **1418** to a function block **1428** to send the profile information with the ID of the computer or user to the host. The ID is basically, as described hereinabove, a "cookie" in the computer which is accessed by the program when transmitting to the host. The program will then flow to a function block **1430** to activate the program such that it, at later time, can operate without requiring all of the setup information. In general, all of the operation of this flowchart is performed with a "wizard" which steps the user through the setup process. Once complete, the program will flow to a Done block **1432**.

Referring now to FIG. **15**, there is illustrated a flowchart depicting the operation of the host when receiving a transaction. The program is initiated at a Start block **1502** and then proceeds to decision block **1504**, wherein it is deter-

mined whether the system has received a routing request, i.e., the routing information **904** in the form of a tone, etc., embedded in the audio signal as described hereinabove with respect to FIG. **9**. The program will loop back around to the input of decision block **1504** until the routing request has been received. At this time, the program will flow along the "Y" path to a function block **1506** to receive the primary routing information and the user ID. Essentially, this primary routing information is extracted from the audio tone, in addition to the user ID. The program then flows to a function block **1508** to look up the manufacturer URL that corresponds to the received primary routing information and then return the necessary command information to the originating PC **112** in order to allow that PC **112** to connect to the destination associated with the primary routing information. Thereafter, the program will flow to a function block **1510** to update the transaction database **1310** for the current transaction. In general, the routing information **904** will be stored as a single field with the associated IDs. The profile database **1308**, as described hereinabove, has associated therewith detailed profiles of each user on the system that has activated their software in association with their ID. Since the ID was sent in association with the routing information, what is stored in the transaction database **1310** is the routing code, in association with all of the IDs transmitted to the system in association with that particular routing code. Once this transaction database **1310** has been updated, as described hereinabove, the transactions can be transferred back to the subscriber at node **312** with the detailed profile information from the profile database **1308**.

The profile information can be transmitted back to the subscriber or manufacturer at node **312** in realtime or non-realtime. A decision block **1512** is provided for this, which determines if the delivery is realtime. If realtime, the program will flow along a "Y" path to a function block **1514** wherein the information will be immediately forwarded to the manufacturer or subscriber. The program will then flow to a function block **1516** wherein the billing for that particular manufacturer or subscriber will be updated in the billing database **1316**. The program will then flow into an End block **1518**. If it was non-realtime, the program moves along the "N" path to a function block **1520** wherein it is set for a later delivery and it is accrued in the transaction database **1310**. In any event, the transaction database **1310** will accrue all information associated with a particular routing code.

With a realtime transaction, it is possible for a manufacturer to place an advertisement in a magazine or to place a product on a shelf at a particular time. The manufacturer can thereafter monitor the times when either the advertisements or the products are purchased. Of course, they must be scanned into a computer which will provide some delay. However, the manufacturer can gain a very current view of how a product is moving. For example, if a cola manufacturer were to provide a promotional advertisement on, for example, television, indicating that a new cola was going to be placed on the shelf and that the first 1000 purchasers, for example, scanning their code into the network would receive some benefit, such as a chance to win a trip to some famous resort in Florida or some other incentive, the manufacturer would have a very good idea as to how well the advertisement was received. Further, the advertiser would know where the receptive markets were. If this advertiser, for example, had placed the television advertisement in ten cities and received overwhelming response from one city, but very poor response from another city, he would then have some inclination to believe that either the one poor-response city was not a good market or that the advertising medium he had chosen was very poor. Since the advertiser can obtain a relatively instant response and also content with that response as to the demographics of the responder, very important information can be obtained in a relatively short time.

It should be noted that the disclosed embodiment is not limited to a single source PC **302**, but may encompass a large number of source computers connected over a global communication network. Additionally, the embodiment is not limited to a single ARS **308** or a single advertiser server **312**, but may include a plurality of ARS and advertiser systems, indicated by the addition of ARS **314** and advertiser server A **316**, respectively. It should also be noted that this embodiment is not limited only to global communication networks, but also may be used with LAN, WAN, and peer-to-peer configurations.

It should also be noted that the disclosed embodiment is not limited to a personal computer, but is also applicable to, for example, a Network Computer ("NetPC"), a scaled-down version of the PC, or any system which accommodates user interaction and interfaces to information resources.

One typical application of the above noted technique is for providing a triggering event during a program, such as a sport event. In a first example, this may be generated by an advertiser. One could imagine that, due to the cost of advertisements in a high profile sports program, there is a desire to utilize this time wisely. If, for example, an advertiser contracted for 15 seconds worth of advertising time, they could insert within their program a tone containing the routing information. This routing information can then be output to the user's PC **302** which will cause the user's PC **302** to, via the network, obtain information from a remote location typically controlled by the advertiser. This could be in the form of an advertisement of a length longer than that contracted for. Further, this could be an interactive type of advertisement. An important aspect to the type of interaction between the actual broadcast program with the embedded routing information and the manufacturer's site is the fact that there is provided information as to the user's PC **302** and a profile of the user themselves. Therefore, an advertiser can actually gain realtime information as to the number of individuals that are watching their particular advertisement and also information as to the background of those individuals, demographic information, etc. This can be a very valuable asset to an advertiser.

In another example, the producer of the program, whether it be an on-air program, a program embedded in a video tape, CD-ROM, DVD, or a cassette, can allow the user to automatically access additional information that is not displayed on the screen. For example, in a sporting event, various statistics can be provided to the user from a remote location, merely by the viewer watching the program. When these statistics are provided, the advertiser can be provided with demographic information and background information regarding the user. This can be important when, for example, the user may record a sports program. If the manufacturer sees that this program routing code is being output from some device at a time later than the actual broadcast itself, this allows the advertisers to actually see that their program is still being used and also what type of individual is using it. Alternatively, the broadcaster could determine the same and actually bill the advertiser an additional sum for a later broadcast. This is all due to the fact that the routing information automatically, through a PC and a network, will provide an indication to the advertiser the time at which the actual information was broadcast.

The different type of medium that can be utilized with the above embodiment are such things as advertisements, which are discussed hereinabove, contests, games, news programs, education, coupon promotional programs, demonstration media (demos), and photographs, all of which can be broadcast on a private site or a public site. This all will provide the ability to allow realtime interface with the network and the remote location for obtaining the routed information and also allow for realtime billing and accounting.

Referring now to FIG. **16**, there is illustrated an alternate embodiment of the present disclosure, this being the preferred embodiment. In the embodiment of FIG. **16**, as compared to that of FIG. **1**, the advertiser does not provide an advertisement in the form of a tone to the broadcast program source **104**. Rather, the program source **104** is operable to continually broadcast a program. The summing device **106** is operable to sum therewith a tone, as described hereinabove, but not in association with an advertisement. Rather, there is provided a tone database **1602** which is operable to contain a plurality of tones. These tones are selected by a selection device **1604**, which selection device **1604** is operable to select one of the multiple tones stored in the tone database **1602** for output therefrom to the summing device **106**. Each of these tones stored in the tone database **1602** is recognizable by the ARS **308** as defining a destination node on the network **306** to which the user PC **302** is to be connected. The selection of the tone is defined by a user, the user being the program director, for example, at the program source **104**. This is facilitated through the use of a console **1606**.

Referring now to FIG. **17**, there is illustrated an overall diagrammatic view of the interconnection over the network of the user PC **112**, it being referred to as user PC **1702** in FIG. **17**. The user PC **1702** is interconnected with the network **306**, as described hereinabove with reference to FIG. **3**, to allow the user PC **1702** to forward the received tone to the ARS **308**. As described hereinabove, this forwarding operation is facilitated by a detection operation in the user PC **1702**. The user PC **1702** detects the presence of the tone within the received broadcast program and then utilizes this information to connect to the ARS **308**, in conjunction with stored information in the user PC **1702**, and forward the received tone or the information contained therein, or even a portion of the information contained therein, to the ARS **308**. The ARS **308** utilizes this information for comparison with a relational database **1704** to define or to correlate the received tone information with routing information for a destination node **1706** on the network **306**. Once the ARS **308** has determined that there is routing information that correlates to the tone information received from the user PC **1702**, then this information is assembled in a packet and transferred back to the user PC **1702**. The user PC **1702** then utilizes this redirected routing information to allow the user PC **1702** to make a connection with the destination node **1706**. This destination node **1706** can then transmit information back to the user PC **1702** in the form of a web page or the such. As described hereinabove, a web browser software program is utilized to interface with the ARS **308** and the destination node **1706**.

As an example, consider the situation where a broadcast network contracts with a retail outlet store having a web page that resides at the destination node **1706** to control a user PC at a user's location on the network to connect to the destination node **1706** whenever certain information is transmitted by the broadcast network in the broadcast program. For example, the retail outlet may be a food market that would desire certain specials to be relayed to a user at certain times of the day and when viewing certain programs that are broadcast by the broadcast network. The program director can then select the tone that is correlated with the destination node **1706** address on the network **306** of the retailer and then transmit this tone at the appropriate time or at the appropriate point in the program. This need not be a specific time, or it can be a specific time in the program. Therefore, a program director can selectively control a user PC **1702** at a user location on the network to connect to a desired destination node **1706** merely by injecting a tone into the broadcast program, or any other type of encoded information. This may be perceptible by the user or it may not be perceptible. Further, it could be an optical code. It is only necessary that some code or information be injected into the broadcast program when transmitted to the user and that there be some type of detector at the user's end to detect this information to then effect a connection over the network **306**. This operation could even be embedded within the actual receiver **110**, i.e., the television, of the user wherein a video "window" were provided in the video display of a television. When the tone or encoded information is transmitted, then the destination node **1706** will be connected to the television through some type of processing system similar to the user PC **1702** within the television or receiver **110** to essentially allow the destination node **1706** to control the information that is transmitted to that video window.

In addition to being able to transmit the encoded information that is detected by the PC **1702** back to the ARS **308** from the user PC **1702**, a user ID in the user PC **1702** can be transmitted to the ARS **308**. The ARS **308** has contained therein a user profile database **1708** which is set up by the user when the detection program is initially loaded, which user profile is associated with the user ID. This user profile information is optional, but can be utilized by the ARS **308** for multiple purposes. One of these purposes could be that the user profile information is appended to the routing information extracted from the relational database **1704** and forwarded back to the user PC **1702**. When the user PC **1702**, and the browser program therein, contact the destination node **1706**, the user profile information received from the ARS **308** is appended thereto. Therefore, the destination node **1706** will have information regarding the user that is contacting the destination node **1706**.

Referring now to FIG. **18**, there is illustrated a flowchart depicting the operation at the broadcast network. The program is initiated at a block **1800** and then proceeds to a function block **1802** wherein the program is broadcast to the user. The program then proceeds to a decision block **1804** to determine if a select input has been received from the console. If not, the broadcast program will continue to be broadcast. However, when the program director selects a tone to be input, the program will flow along the "Y" path to a function block **1806** wherein the tone will be selected from the database **1602**. The program will then flow to a function block **1808** wherein this tone will be summed with the broadcast program and transmitted to the user.

In an alternate embodiment, it is possible that the destination node **1706** could actually be provided with access to this summing operation. An organization that is affiliated with the destination node may remotely input information to the broadcast network via some type of telephone link or remote communication link to allow this non-affiliated entity to actually control the user PC **1702** over the broadcast network to effect a connection over the data network **306**, this facilitated by allowing this entity to select the tone from the database **1602**.

In summary, there has been provided a method for allowing a user's PC to be controlled in order to effect a connection between a user's PC and a destination node on a network to allow a web connection to be made. This is facilitated through a broadcast network transmitting an audio/visual program. An encoded tone is injected into the broadcast program which is detected by a program running in the background of the user's PC. Once this tone is detected, a web browser is launched and the tone transmitted to an intermediate node on the network. This intermediate node then compares the information received from the user's PC with a relational database. This relational database contains routing information for various destination nodes on the network. When a match is made, the matching information is then forwarded back to the user's PC and this utilized to route the user's PC **1702** to the destination node **1706**.

Although the preferred embodiment has been described in detail, it should be understood that various changes, substitutions and alterations can be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. A method for controlling a computer, comprising the steps of:

generating a broadcast program at a broadcast station;

inserting into the broadcast program an analog signal comprising a product identifier which is in close association with a product such that it identifies the associated product;

receiving the broadcast program at a source location disposed on a network and extracting the product identifier therefrom;

inputting the product identifier at the source location;

appending routing information to the product identifier, which routing information defines the location of a remote location on the network; and

transmitting the product identifier from the source location to the remote location over the network in accordance with the appended routing information, which routing information defines a network connection between the source location and the remote location on the network, wherein information regarding the associated product can be returned to the source location from the remote location.

2. The method of claim **1**, wherein the routing information is associated with a secondary location on the network such that the step of transmitting to the remote location transmits the product identifier to the remote location in association with routing information, for returning to the source location, and further comprising:

accessing a database of product routing information which provides an association between a predetermined product identifier and a remote product information location on the network, there being a plurality of such product routing information stored in the database;

accessing the database in response to receiving at the secondary location a transmitted product identifier from the source location;

comparing the received product identifier with the stored product routing information in the database;

if there is a match between the received product identifier and any of the stored product routing information, transmitting the matching product routing information back to the source location; and

at the source location, in response to receiving the matching product routing information, interconnecting the source location with the product information location over the network and receiving product information therefrom.

3. The method of claim **1**, wherein the network is a global communication network that provides a universal resource locator (URL) for each location on the network and the routing information is comprised of the URL for the location.

4. The method of claim **3**, wherein a processing system is provided running a program that receives input in the form of keystrokes for routing of information thereto, and the step of appending routing information comprises the step of forming a keystroke string that emulates the combination of the routing information and the product identifier in keystrokes and transmits the emulated keystrokes to the program in the same manner that a user would key the strokes in, and the step of transmitting is performed in response to the appended routing information and product identifier transmitted to the program with an appended command associated therewith that instructs the program to perform a transmit operation in a manner similar to a user interacting with the program to transmit routing information.

5. The method of claim **4**, wherein the appended routing information includes instructional information as to how the remote location is to handle the transmitted product identifier.

6. The method of claim **5**, wherein the program is a web browser which is automatically launched in response to receiving the product identifier.

7. A method for effecting a connection between a user node on a network and a destination node on the network, comprised in the steps of:

broadcasting a program over an audio/visual network for receipt at a user location, the user location associated with the user node;

generating a unique code at the source of a broadcast program, which unique code is associated with the location of the destination node on the network wherein the step of generating is not predetermined and is generated in response to independent generation of the unique code and summing thereof with the broadcast program which constitutes a triggering event therefore;

summing the generated unique code with the broadcast program;

detecting the presence of the unique code in the broadcast program at the user location with a processing system disposed on the user node and operable to interface with the network;

in response to detecting the unique code being present in the broadcast program, transmitting information regarding the unique code over the network to an intermediate node on the network;

matching the received information regarding the unique code with routing information stored in a database at the intermediate node, which routing information defines the location on the network of a plurality of destination nodes, the database having stored therein a correspondence between unique codes and select ones of the destination nodes; and

if there is a match between the receiving decode and a unique code stored in the database, causing the destination node and the user node to be connected over the network with the corresponding routing information, such that the destination node can transmit information to the user node.

8. The method of claim 7, wherein the unique code is an audible code.

9. The method of claim 7, wherein the unique code is an optical code in the step of detecting which is operable to detect an optical signal.

10. The method of claim 7, wherein the processing system comprises a PC disposed at the user location and having access to the network.

11. The method of claim 7, wherein the network comprises a global communication network.

12. The method of claim 7, wherein the step of causing the destination node and the user node to be connected if there is a match comprises:

transmitting back to the user node the routing information determined to be stored in the database and corresponding unique code as associated with the information regarding the unique code at the intermediate node;

the user node utilizing the received routing information to effect a connection to the destination node from the user node; and

the destination node, in response to being connected to the user node via the routing information, operable to transfer information to the user node.

13. The method of claim 12, wherein the user node further includes user ID information that uniquely identifies the user node, and wherein the database at the intermediate node includes a stored profile which is associated therein with the user ID information of the user node, and wherein the step of transmitting information regarding the unique code over the network to the intermediate node also includes transmitting the user ID information to the intermediate, and the step of matching information regarding the unique code with the routing information in the database further comprises matching the received user ID information of the user node with stored profile information associated with the received user ID information, and wherein the step of transmitting back to the user node the routing information further includes appending to the routing information the stored profile information, wherein the stored profile information is transmitted to the destination node via the user node.

14. The method of claim 7, wherein a plurality of unique codes are stored in a database and one or more of the unique codes are selected by a program director and output to a selection device.

15. A system for controlling a computer, comprising:

a broadcast program generated at a broadcast station;

an analog signal inserted into said broadcast program, and comprising a product identifier which is in close association with a product such that it identifies said associated product;

a source location disposed on a network for receiving said broadcast program and extracting said product identifier therefrom, said product identifier input at said source location;

routing information appended to said product identifier, which said routing information defines the location of a remote location on said network; and

wherein said product identifier is transmitted from said source location to said remote location over said network in accordance with said appended routing information, which said routing information defines a network connection between said source location and said remote location on said network, and wherein information regarding the associated product can be returned to said source location to said remote location.

16. The system of claim 15, wherein said routing information is associated with a secondary location on said network such that said product identifier is transmitted to said remote location in association with said routing information, for returning to said source location, and wherein a database of product routing information is accessed which provides an association between a predetermined product identifier and a remote product information location on said network, there being of plurality of such said product routing information stored in said database, wherein said database is accessed in response to receiving at said secondary location a transmitted product identifier from said source location, wherein said received product identifier is compared with said stored product routing information in said database, and if there is a match between said received product identifier and any of said stored product routing information, the matched said product routing information is transmitted back to said source location, and at said source location, in response to receiving said matched product routing information, said source location is interconnected with said product information location over said network to receive product information therefrom.

17. The system of claim 15, wherein said network is a global communication network that provides a universal resource locator (URL) for each location on said network and said routing information is comprised of said URL for said location.

18. The system of claim 17, wherein a processing system is provided running a program that received input in the form of keystrokes for routing of information thereto, and wherein routing information appended is in the form of a keystroke string that emulates the combination of said routing information and said product identifier in keystrokes, and transmits the emulated keystrokes to said program in the same manner that a user would key the strokes in, and said matching product routing information is transmitted back to said source location in response to said appended routing information and said product identifier being transmitted to said program within appended command associated therewith that instructs the program to perform a transmit operation in a manner similar to a user interacting with said program to transmit routing information.

19. The system of claim 18, wherein said appended routing information includes instructional information as to how the said remote location is to handle said transmitted product identifier.

20. The system of claim 19, wherein said program is a web browser which is automatically launched in response to receiving said product identifier.

21. A system for effecting a connection between a user node on a network and a destination node on the network, comprising:

a program broadcast over an audio/visual network for receipt at a user location, said user location associated with said user node;

a unique code generated at said source of a broadcast program, which said unique code is associated with said location of the destination node on the network, said generated unique code summed with said broadcast program wherein said generated unique code is not pre-determined and is generated in response to independent generation of said unique code and summing thereof with said broadcast program which constitutes a triggering of that therefore;

wherein the presence of said unique code is detected in said broadcast program at said user location with a processing system disposed on said user node and operable to interface with the network, the destination

node connected to the user node to receive information therefrom in response to the unique code being detected; and

wherein said information regarding said unique code is transmitted over the network to an intermediate node on the network in response to said unique code being detected in said broadcast program, said received information regarding said unique code is matched with said routing information stored in a database at said intermediate node, which said routing information defines said location on the network of a plurality of destination nodes, said database having stored therein a correspondence between unique codes and select ones of the destination nodes, wherein if there is a match between the receiving decode and a unique code stored in said database, the destination node is caused to be connected to the user node over the network with said corresponding routing information such that the destination node can transmit information to the user node.

22. The system of claim **21**, wherein said unique code is an audible code.

23. The system of claim **21**, wherein said unique code is an optical code which is operable to detect an optical signal.

24. The system of claim **21**, wherein said processing system comprises a PC disposed at said user location and having access to the network.

25. The system of claim **21**, wherein the network comprises a global communication network.

26. The system of claim **21**, wherein if there is a match, said routing information determined to be stored in said database in corresponding unique code as associated with said information regarding said unique code is transmitted back to the user node from the intermediate node, the user node utilizing said received routing information to effect a connection to the destination node from the user node, the destination node in response to being connected to the user node via said routing information is operable to transfer information to the user node.

27. The system of claim **26**, wherein the user node further includes user I.D. information that uniquely identifies the user node, and wherein said database at said intermediate node includes a stored profile which is associated therein with said user I.D. information of the user node, and wherein said user I.D. information is also transmitted to said intermediate node, and wherein said received user I.D. information of the user node is matched with said stored profile information associated with the received user I.D. information, and wherein said routing information transmitted back to the user node includes said stored profile information appended to said routing information, and wherein said stored profile information is transmitted to the destination node via the user node.

28. The system of claim **21**, wherein a plurality of said unique codes are stored in a database and one or more of said unique codes are selected by a program director and output to a selection device.

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